FCC 92-336

Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of

Amendment of Parts 21, 22, 23, and 25 of the Commission's Rules To Require Reporting of Station Frequency and Technical Parameters for Registration by the Commission with the International Frequency Registration Board	))))))	CC Docket No. 92-160

NOTICE OF PROPOSED RULEMAKING

Adopted: July 20, 1992; Released: July 30, 1992

Comment Date: September 28, 1992
Reply Comment Date: October 28, 1992

By the Commission:

I. Introduction

1. By this Notice of Proposed Rulemaking (NPRM) we are proposing to create an automated database that will provide the Commission with capability of protecting domestic licensees at risk of harmful electrical interference to and from foreign carriers and improving the reporting of frequency assignments to the International Frequency Registration Board (IFRB).[1] The establishment of such a database necessitates additional reporting requirements for applicants, permittees and licensees in the Domestic Public Fixed Radio, Public Mobile, International Fixed Public Radiocommunication, and Satellite Communications Services under Parts 21, 22, 23, and 25, respectively, of the Commission's rules.[2] More specifically, the

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1 The IFRB is a permanent organ of the International Telecommunication Union (ITU), headquartered in Geneva, Switzerland. The IFRB consists of five members elected by the ITU's Plenipotentiary Conference. The IFRB's primary function is to determine that radio frequencies which countries assign to their radio stations are in accordance with the ITU Convention and Radio Regulations and will not cause interference to other countries' stations. If the IFRB decides that a particular frequency assignment satisfies these criteria, it records the frequency assignment in its Master International Frequency Register. By inclusion in the register, a frequency assignment is afforded formal international recognition and protection. See para. 2, infra. Currently, the Commission must notify the IFRB of domestic common carrier frequency assignments through the submission of standard forms.

2 While the term "Common Carrier" is used throughout this NPRM, non-common

requirements would mandate the submission of certain technical operating information by U.S. radio station licensees that operate in geographic areas most likely to require international coordination. This NPRM requests public comment on proposed rules, set forth in Appendix B, that would codify these reporting requirements.

II. Background

2. The reporting requirements for frequency coordination contained in International Telecommunication Union (ITU) Radio Regulations and IFRB-prescribed procedures provide for frequency assignments to be notified and registered in the Master International Frequency Register. As a signatory to the ITU Convention (Nairobi, 1982) and the related Radio Regulations, the United States has a responsibility to cooperate with foreign governments in the international management and coordination of spectrum utilization. Recent growth in the use of radio spectrum for domestic, international, terrestrial and satellite communications has generated a greater need to ensure timely, accurate reporting to the IFRB, efficient coordination by the Commission, and improved interference protection for domestic licensees. Current FCC rules do not require Commission applicants, permittees or licensees to report all the data necessary for these purposes, and the data that we have are not in a format that is readily transferable to a computer database. Such a database would facilitate more efficient and accurate frequency assignment reporting, coordination, and submittal to the IFRB, and thereby provide increased protection for domestic carriers in zones at risk of interference to or from foreign stations.

III. Discussion

3. The need for the Commission to maintain accurate and up-to-date records of U.S. licensees has become increasingly important. In the past, licensees in other countries have not used common carrier spectrum as heavily as have our domestic carriers. Consequently, the risk of interference from these foreign carriers was minimal. But rapid telecommunications developments in nearby countries have led to increased foreign usage of the spectrum, with the attendant increase in the potential for harmful interference. This is particularly noticeable in the spectrum used to support geostationary satellites and other services critical to U.S. interests. Various treaties between the United States and foreign governments to reduce the risk of interference through frequency coordination require the U.S. to maintain a registry of stations that may cause interference to foreign stations. The registry would contain the kind of data needed by the IFRB to protect domestic carriers from foreign radio interference. Increased spectrum utilization in areas at risk of harmful interference demands prompt and accurate notification to the IFRB to assure protection of domestic radio licensees from foreign interference. For technical reasons concerning radiowave propagation, the greatest attention needs to placed on those areas of the continental United

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carriers' facilities licensed under Part 25 are also subject to these additional reporting requirements. VSAT facilities authorized under the Part 25 blanket licensing program are also subject to these additional reporting requirements.

States near Mexico and Canada, the States of Alaska and Hawaii, the Commonwealth of Puerto Rico, and the territories of Guam, American Samoa, and the U.S. Virgin Islands.

4. The United States has reached bilateral agreements with both Mexico and Canada that cover certain radio station licensees in the services within the scope of this NPRM, and discussions continue to be pursued with both countries on a variety of frequency coordination issues.[3] Nevertheless, data from domestic licensees for spectrum not covered by these agreements are still required for the level of interference management we seek.[4]

5. In order to implement an effective interference management system, the Common Carrier Bureau (Bureau) needs a current, accurate and continuously updatable database so that it can quickly meet IFRB notification requirements, respond to IFRB requests and publications and resolve foreign countries' requests for coordination of frequency assignments.[5] Existing Commission databases contain insufficient data to meet these objectives, and the accuracy of these data for this purpose cannot be readily verified. Moreover, some data elements have been erased through usage over time and the data that remains are not in a format that permits the development and use of a readily accessible and updatable database. In addition, some reporting forms the Commission has used to submit technical data to the IFRB do not apply to certain services. To compile the required database, the Bureau needs to assemble a variety of authorized frequency assignment information. We propose to seek from applicants, permittees and licensees all data elements regarding frequency assignments that the Commission must report to the IFRB. Also included will be data necessary to permit the Bureau to perform monitoring, reporting, and coordinating functions to resolve efficiently matters raised

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3 Due to existing bilateral agreements with Canada, notification and coordination with the IFRB on trans-Canadian border frequency use appear to be adequate for Fixed and Mobile Services. Therefore, the proposed reporting requirements should not be applicable to licensees in proximity to the Canadian border. With Mexico, there is a bilateral agreement covering cellular systems in the Mobile Service for certain frequency bands, and the rule proposed covers a small part of the spectrum above these bands. In addition, an agreement with Mexico for 6 GHz earth stations was formalized in July, 1991, in connection with the Satellite Communications Service. Data on 6 GHz earth stations near Canada has been provided informally to Canada. However, a formal agreement concerning earth stations does not yet exist with Canada. Interested parties are asked to comment on the need to apply our proposed rules to this service. Copies of all of the above agreements will be placed in the docket file for this proceeding.

4 As concerns in regard to frequency coordination arise with both countries in the future, we intend to continue to resolve them on a bilateral basis.

5 The IFRB publishes a weekly circular that contains the frequency assignment notifications.

either with foreign governments or through the Treaty Branch of the Commission's Office of Engineering and Technology. The assembly of this information, on a medium that facilitates entry into and the development of the database, will substantially reduce the administrative burden on Commission staff to retrieve and recollate relevant data as well as to track and update records.

6. Based on the foregoing, we are proposing rules (see Appendix B) that require domestic radio station licensees to submit data on their frequency and technical parameters in computer readable format as prescribed by each Division for the services affected by this proceeding.[6] We propose that these data reports be solely in magnetic form, on 3 1/2 inch diskettes. This medium will provide the required information in a format that will permit the Commission to build efficiently the database needed and to notify the IFRB in a timely fashion. The resulting database will also enable the staff to minimize hardcopy exchange in making information corrections. Most important, however, we believe that common carriers will benefit by the improved interference protection that the new database resource will achieve. Moreover, the burden on those carriers will be minimal and in some cases even eased by the submission of diskettes instead of paper. The specific data requirements for the diskettes for the different services are illustrated in attachments (see Attachments 1-4) to this Notice following the proposed general rules sections.[7]

7. We propose to require existing applicants, permittees and licensees to submit diskettes according to a schedule determined by each Division. In this way we hope to accommodate in a more efficient way the data needed from each service. Applicants for initial authorizations will be required to submit a diskette with all required information when filing their applications. Applicants seeking to amend their applications and permittees and licensees modifying their authorizations will be required to submit updated diskettes. We also request comments on these proposals.

IV. Conclusion

8. The proposed requirements are intended to protect domestic radio station licensees from harmful interference from foreign carriers and to facilitate Commission IFRB reporting. We encourage all parties, including small entities, to participate in this proceeding so that we may implement

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6 The specific rules that we are proposing for the common carrier mobile services in Part 22 of the Commission's rules would be subject to coordination with the pending rulemaking proceeding for the revision of Part 22. See Revision of Part 22 of the Commission's rules governing the Public Mobile Services (CC Docket 92-115), (NPRM), FCC 92-205 (adopted May 14, 1992).

7 We also invite comment on these attachments, particularly concerning Attachments 3 and 4 in regard to the dependency of earth stations on information for space stations and the need for all of the specific information proposed for submission.

reporting requirements that minimize the administrative burden on both common carriers and the Commission. Pursuant to applicable procedures set forth in section 1.415 and 1.419 of the Commission's rules, 47 C.F.R. Section 1.415 and 1.419, interested parties may file comments on or before September 28, 1992, and reply comments on or before October 28, 1992. To file formally in this proceeding, participants must file an original and five copies of all comments, reply comments, and supporting comments. If participants want each Commissioner to receive a personal copy of their comments, they must file an original plus nine copies. Participants should send comments and reply comments to Office of the Secretary, Federal Communications Commission, Washington, D.C. 20554. Comments and reply comments will be available for public inspection during regular business hours in the Dockets Reference Room of the Federal Communications Commission, 1919 M Street, N.W., Washington, D.C. 20554.

V. Ordering Clause

9. Accordingly, IT IS ORDERED, pursuant to Sections 1, 4(i), 4(j), 301, 303(i), 303(r), 313 and 314 of the Communications Act of 1934, as amended, 47 U.S.C. Sections 154(i), 154(j), 301, 303(i), 303(r), 313 and 314, THAT A RULEMAKING PROCEEDING IS HEREBY INITIATED AND A NOTICE OF PROPOSED RULEMAKING IS ISSUED.

10. IT IS ORDERED that the Secretary shall cause a copy of this Notice of Proposed Rule Making to be sent to the Chief Counsel for Advocacy of the Small Business Administration in accordance with Section 603(a) of the Regulatory Flexibility Act (5 U.S.C. Section 603(a)).

FEDERAL COMMUNICATIONS COMMISSION

Donna R. Searcy

Donna R. Searcy
Secretary

APPENDIX A

PROCEDURAL MATTERS

a. Ex Parte Rules - Non-Restricted Proceeding

This is a non-restricted notice and comment rulemaking proceeding. Ex parte presentations are permitted, except during the Sunshine Agenda period, provided they are disclosed as provided in Commission rules. See generally 47 C.F.R. Sections 1.1202, 1.203, and 1.206(a).

b. Initial Regulatory Flexibility Analysis (IRFA)

Reason for Action

This rule making proceeding is initiated to obtain comment regarding the information that the Commission believes is necessary to require applicants, permittees and licensees to report to the Commission for efficient automated registration of licensed frequencies of domestic common carriers with the International Frequency Registration Board.

Objectives

The Commission seeks to evaluate the amount and type of information it proposes to require of licensees under Parts 21, 22, 23, and 25 of its rules in order to ensure that it effectively reports all necessary information to the International Frequency Registration Board and yet minimizes the additional reporting burden. The Commission also seeks to establish a data base with sufficient, updated frequency assignment and other pertinent operating information on applicants, permittees and licensees to protect them from interference from foreign stations.

Legal Basis

The proposed action is authorized under sections 4(i), 4(j), 301, 303(i), 303(r), 313 and 314 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 154(j), 301, 303(i), 303(r), 313 and 314.

Reporting, Recordkeeping and Other Compliance Requirements

Additional reporting of information relating to operations of stations on an updated basis after the proposed rule becomes effective is required in the form of a magnetic diskette. Other than reporting information, there are no compliance requirements.

Federal Rules which Overlap, Duplicate or Conflict With These Rules

None.

Description, Potential Impact, and Number of Small Entities Involved

Any rule changes in this proceeding would affect only domestic common carrier and non-common carrier applicants, permittees and licensees under Parts 21, 22, 23, and 25 of the Commission rules that are within the proposed areas defined herein. This could include a number of small entities. We anticipate

that the effect of the proposed reporting requirement could be greater on small entities than on large ones. Small entities might have to contract with engineering consultants to input the information on the diskettes. Nevertheless, after evaluating the comments in this proceeding, the Commission will further examine the impact of the proposed rule change on small entities and set forth our finding in the Final Regulatory Flexibility Analysis.

Any Significant Alternatives Minimizing the Impact on Small Entities Consistent with the Stated Objectives

The Notice solicits comment on alternatives that may affect the impact on small entities.

Comment

We request written comments on the IRFA. These comments must be filed in accordance with the same filing deadlines as comments on the rest of the Notice, but they must have a separate and distinct heading designating them as responses to the Initial Regulatory Flexibility Analysis.

Service

The Secretary shall send a copy of this Notice of Proposed Rule Making, including the Initial Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration in accordance with paragraph 603(a) of the Regulatory Flexibility Act. Pub. L. No. 96-354, 94 Stat. 1164, 5 U.S.C. Section 601 et seq (1981).

c. The Commission is serving the following government agencies with copies of this Notice of Proposed Rule Making: National Telecommunications and Information Administration and Office of Management and Budget.

Appendix B - Proposed Rules

Title 47 of the Code of Federal Regulations, Parts 21, 22, 23, and 25, is proposed to be amended to read as follows:

I. Part 21 - Domestic Fixed Facilities

1. The authority citation for Part 21 continues to read:

AUTHORITY: Secs. 4, 303, 48 Stat. 1066, 1083, as amended; 47 U.S.C. 154, 303.

2. A new Section 21.14 is added to read as follows:

Section 21.14 Additional Information

(a) The following Domestic Public Fixed Service applicants and licensees shall file the frequency and operating technical parameters, in computer readable format, as prescribed by the Domestic Facilities Division for coordination and notification of frequency assignments pursuant to international Radio Regulations:

Domestic Public Fixed Radio Services applicants and licensees

(i) in the continental United States within 56 kilometers (35 miles) of the U.S. - Mexico border, or at or below the latitude of 30 degrees North in South Florida, or

(ii) in Alaska within 56 kilometers (35 miles) of Russia

(iii) in Hawaii, the Commonwealth of Puerto Rico, the U.S. Virgin Islands, and the territories of Guam, American Samoa, and the Northern Mariana Islands.

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II. Part 22 - Public Mobile Service

1. The authority citation for Part 22 continues to read:

AUTHORITY: Secs. 4, 303, 48 Stat. 1066, 1083, as amended; 47 U.S.C. 154, 303.

2. Section 22.6 is amended by adding new paragraph (f) to read as follows:

(f) The following Public Mobile Service applicants and licensees shall file the frequency and operating technical parameters in computer readable format as prescribed by the Mobile Services Division for coordination and notification of frequency assignments pursuant to international Radio Regulations:

(1) Cellular applicants and licensees

(i) in the continental United States

(A) in cellular Market Nos. 12, 164, 360, and 370 in South Florida, or

(B) within 120 kilometers (75 miles) of the U.S. - Mexico border for frequencies from 891 MHz through 894 MHz, or

(ii) in Alaska within 160 kilometers (100 miles) of the Russia, or

(iii) in Hawaii, the Commonwealth of Puerto Rico, the U.S. Virgin Islands, and the territories of Guam, American Samoa, and the Northern Mariana Islands.

(2) Public Land Mobile Service applicants and licensees

(i) in the 35-162 MHz frequency band in the continental United States within 120 kilometers (75 miles) of the U.S. - Mexico border, or in Alaska within 120 kilometers (75 miles) of Russia, or for all stations in Hawaii, the Commonwealth of Puerto Rico, the U.S. Virgin Islands, and the territories of Guam, American Samoa, and the Northern Mariana Islands.

(ii) in the 72-76 MHz frequency band within 320 kilometers (200 miles) of the U.S. - Mexico border.

(iii) in the 450-512 MHz frequency band within 120 kilometers (75 miles) of the U.S. - Mexico border, or within 960 kilometers of that border or Cuba for an air-ground station, or in Alaska within 120 kilometers (75 miles) of Russia, or for all stations in Hawaii, the Commonwealth of Puerto Rico, the U.S. Virgin Islands, and the territories of Guam, American Samoa, and the Northern Mariana Islands.

(iv) in the 900-953 MHz frequency band in the continental United States within 120 kilometers (75 miles) of the U.S. - Mexico border, or in Alaska within 120 kilometers (75 miles) of Russia, or for all stations in Hawaii, the Commonwealth of Puerto Rico, the U.S. Virgin Islands, and the territories of Guam, American Samoa, and the Northern Mariana Islands.

(v) in the 2110-2180 MHz frequency band in the continental United States within 80 kilometers (50 miles) of the U.S. - Mexico border, or in Alaska within 80 kilometers (50 miles) of Russia, or for all stations in Hawaii, the Commonwealth of Puerto Rico, the U.S. Virgin Islands, and the territories of Guam, American Samoa, and the Northern Mariana Islands.

(3) Rural Radio applicants, permittees and licensees

(i) in the 35-162 MHz frequency band in the continental United States within 120 kilometers (75 miles) of the U.S. - Mexico border, or in Alaska within 120 kilometers (75 miles) of Russia, or for all stations in Hawaii, the Commonwealth of Puerto Rico, the U.S. Virgin Islands, and the territories of Guam, American Samoa, and the Northern Mariana Islands.

(ii) in the 450-460 MHz frequency band in the continental United States within 120 kilometers (75 miles) of the U.S. - Mexico border, or in Alaska within 120 kilometers (75 miles) of Russia, or for all stations in Hawaii, the Commonwealth of Puerto Rico, the U.S. Virgin Islands, and the territories of Guam, American Samoa, and the Northern Mariana Islands.

(4) Offshore Radiotelecommunications

(i) in the 35-162 MHz frequency band.

(ii) in the 450-512 MHz frequency band within 120 kilometers (75 miles) of the U.S. - Mexico border.

(5) Air-Ground

(i) in the 800 MHz frequency band within 960 kilometers (600 miles) of the U.S. - Mexico border.

The above applicants filing for initial authorizations shall submit the required information on the magnetic diskette when they file their applications. Pending applicants, current permittees and licensees shall file the required information according to the schedule as the Division may determine. Applicants, permittees and licensees amending applications or modifying authorizations that seek to change the frequency or other data required shall also file an updated magnetic diskette with their respective application. Diskettes pertaining to this rule section shall be sent to the Mobile Services Division, Federal Communications Commission, Washington, D.C. 20554. The submission of the diskettes is exempt from the microfiche requirements of paragraph (d) above.

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III. Part 23 - International Fixed Public Radiotelecommunication Services

1. The authority citation for Part 23 continues to read:

AUTHORITY: Secs. 4, 303, 48 Stat. 1066, 1083, as amended; 47 U.S.C. 154, 303.

2. Section 23.20 is amended by adding a new paragraph (f) to read as follows:

(f) Applicants, permittees and licensees of radio stations governed by this part, except those proposing frequency use below 25 MHz, that are within 201 kilometers (125 miles) of the border of a foreign country, or

further distance as the Commission may notify, shall provide the Commission with all the information it requires on magnetic diskette, as prescribed by the International Facilities Division for coordination and notification of frequency assignments pursuant to international Radio Regulations.

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IV. Part 25 - Satellite Communications

1. The authority citation for Part 25 continues to read:

AUTHORITY: Secs. 4, 303, 48 Stat. 1066, 1083, as amended; 47 U.S.C. 154, 303.

2. Section 25.111 is amended by revising paragraph (b), the first sentence, to read as follows:

(b) Applicants, permittees, and licensees of radio stations governed by this Part shall provide the Commission with all information, in the designated format, it requires for the Advance Publication, * * *

3. Section 25.115 is amended by adding new paragraphs (d) and (e) to read as follows:

(d) International notification and coordination. Any earth station, including an earth station requiring no domestic authorization, that has a coordination contour, as defined in Appendix 28 of the international Radio Regulations, extending into the territory of another administration shall file all necessary information in a computer readable format as required in order to receive interference protection described in Section 25.111(b).

(e) All earth stations. Any application filed with the Commission for earth station authorization, registration, or international notification shall be in a computer readable format on a 3 1/2 inch magnetic diskette.

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Description of Data Medium and Format(s) for Domestic Public Fixed and International Fixed Public Radiocommunication Services Licensees

The information requested shall be submitted as follows:

Use a 3 1/2 inch magnetic disk, formatted MS-DOS 2.0 or higher;

File name(s) shall consist of: "call sign" for licensees, or the "first five numerals" of the file number for applicants, plus, for both licensees and applicants, an extension consisting of the letters, "IFR";

Type of File to be used: Plain ASCII File;

Data Field Delimiter: ASCII character 13 (HOD)

Report the following data elements in the format shown below :

CHARACTERISTICS OF THE ASSIGNMENT

Data Elements-Definition	Mnemonics	Format	Explanation
Assigned Frequency	FRQ01	#####.####*	*(K,M,or G)
Class of Station	STA01	**See Appendix Z **	
Nature of Service	SER01	**See Appendix Z **	
Class of Operation	COO01	A,B,or C	generally A
Grant Date	GRD01	DDMMYY	
Call Sign	CLS01	<= 8 characters	
TX Station (City,State)	TXC01	<= 20 characters	
Country or Area	CTY01	ALS, PTR, SMA, USA, or VIR	
Longitude	XLG01	DDD*MMSS	*(E or W)
Latitude	XLA01	DD*MMSS	*(N or S)

CHARACTERISTICS OF AN ENTRY PERTAINING TO THE ASSIGNMENT

Reference Frequency	RFQ01	#####.####*	*(K,M,or G)
Emission Designator	EMS01	<= 9 characters	
Type of Power (X=Peak Envelope,Y=Mean,Z=Carrier)	PWT01	X,Y,or Z	
Power to the Antenna	PWA01	*##.#	*(+ or -)
Radiated Power (ERP or EIRP)	PWR01	*###.#**	*(+ or -); **(E or I)
Reg. Hours of Operation	RHO01	HHMMHHMM	
Azimuth	AZM01	###.# or ND	
Beamwidth	BMW01	###.##	
Maximum Gain	MGN01	##.# **DON'T NEED IF WE HAVE ERP or EIRP	
Longitude	LOC03	DDD*MM	*(E or W)
Latitude	LOC04	DD*MM	*(N or S)
Radius	RAD01	#####	
RX Station (City, State)	RXC01	<= 20 characters	
Country or Area	CTY01	ALS,PTR,GUM,SMA,USA,HWA,VIR, or MRA	
Elevation Angle	ELA01	*###.#	*(+ or -)
Polarization	POL01	H or V	
Height (AMSL)	HGT01	*####	*(+ or -)

Attachment 2 **DRAFT FCC REPORT 22-01**

Description of Data Medium, and Format(s) for Mobile Services Licensees

The information requested by the Mobile Services Division shall be submitted as follows:

Use a 3 1/2 inch magnetic disk, formatted MS-DOS 2.0 or higher;

File name(s) shall consist of: "call sign" for licensees, or the "first five numerals" of the file number for applicants, followed by the letter "D", for Common Carrier, or "G" for Air-Ground Service; plus, for both licensees and applicants, an extension consisting of the letters, "IFR";

Type of File to be used: Plain ASCII File;

Data Field Delimiter: ASCII character 13 (HOD)

Report the following data elements in the format shown below:

CHARACTERISTICS OF THE ASSIGNMENT

Data Elements Definition	Mnemonics	Format	Explanation
Assigned Frequency	FRQ01	#####.####*	*(K,M,or G)
Class of Station	STA01	**See Appendix Z **	
Nature of Service	SER01	**See Appendix Z **	
Class of Operation	COO01	A,B,or C	generally A
Grant Date	GRD01	DDMMYY	
Call Sign	CLS01	<= 8 characters	
TX Station (City,State)	TXC01	<= 20 characters	
Country or Area	CTY01	ALS,PTR,GUM,SMA,USA,HWA,VIR,or MRA	
Longitude	LOC01	DDD*MMSS	*(E or W)
Latitude	LOC02	DD*MMSS	*(N or S)

CHARACTERISTICS OF AN ENTRY PERTAINING TO THE ASSIGNMENT

Reference Frequency	RFQ01	#####.####*	*(K,M,or G)
Emission Designator	EMS01	<= 9 characters	
Type of Power (X=Peak Envelope,Y=Mean,Z=Carrier)	PWT01	X,Y,or Z	
Power to the Antenna	PWA01	*##.#	*(+ or -)
Radiated Power (ERP or EIRP)	PWR01	*###.#**	*(+ or -); **(E or I)
Reg. Hours of Operation	RHO01	HHMMHHMM	
Azimuth	AZM01	###.# or ND	
Beamwidth	BMW01	###.##	
Maximum Gain	MGN01	##.# **DON'T NEED IF WE HAVE ERP or EIRP	
Longitude	LOC03	DDD*MM	*(E or W)
Latitude	LOC04	DD*MM	*(N or S)
Radius	RAD01	#####	

Attachment 3

EARTH STATIONS USED FOR DOMESTIC, INTERNATIONAL, AND TRANSBORDER SERVICES

The purpose of this attachment is to describe the medium, format, and data structure for the submission of earth station data for the international coordination of the USA earth stations. This structure is applicable to all earth stations licensed by the Common Carrier Bureau of the FCC. These include those earth stations used for domestic, international, and transborder services. The data elements listed in this attachment are the composite elements from FCC Form 493 (domestic "Application For Earth Station Authorization...") as well as FCC Forms 130/III-A, 130/III-B1, 130/III-B2, 130/III-C1, and 130/III-C2 (collectively, the IFRB forms for provision of ITU Appendix 3 earth station data).

The level of detail required by the IFRB for the submission of earth station data for international coordination under ITU RR1107 is an order of magnitude more complex than that required for domestic licensing of these facilities. One major reason for this is that, internationally, earth stations are considered only as part of satellite networks. They are never considered in isolation from their satellite network, even for the purpose of RR1107 coordination with terrestrial users of the spectrum. The result of this is that all satellite names, beam names, frequencies, emission descriptors, polarizations, etc. reported to the IFRB for an earth station must match exactly the information already on file with the IFRB for that space station network. Each and every emission must be fully accounted for in the IFRB data. Within a satellite network, each emission must be transmitted by an earth station, received by a receiving space station beam, translated to and retransmitted by a space station transmitting beam, and finally received by a receiving earth station. Any mismatch in information between the earth station submission and what is already on file for the associated space station network is sufficient to cause the IFRB to reject the earth station submission.

Domestically, however, most earth stations are generally authorized to operate with all US domsats within the orbital arc over which domestic coordination has been completed ('ALSAT'). Furthermore, emissions and frequencies are licensed only for earth stations. No individual domestic licenses are produced for emissions or individual frequencies with regard to space stations.

The consequence of this dichotomy for the earth station operator is that he must determine which satellite or satellites he wants his earth station to be associated with for international coordination. After completing RR1107 coordination, he then receives international frequency protection only for operations with that associated satellite. For full international protection, the earth station operator would have to supply the data and complete the RR1107 coordination process for each and every satellite with which he wants international frequency protection. For example, for a 4 GHz TVRO earth station to have full protection over the same arc he has coordinated domestically, he would have to be associated with and complete RR1107 coordination for approximately 29 separate space station networks.

Description of Data Medium for earth station licensees:

Submissions of data for earth stations shall be provided using 3-1/2 inch magnetic diskettes, formatted by MS/DOS 2.0 or higher. Both Double-Density (720 kbytes) and High-Density (1.44 Mbytes) diskettes are acceptable. The format of all earth station data files shall be ascii.

For bulk filings of numerous earth stations, other higher volume media might be arranged. The use of media other than 3-1/2 inch DOS diskettes, however, must be coordinated with the FCC staff on an individual basis.

Description of Data Files containing earth station data:

The data elements for the earth station submissions are grouped logically into ten (10) file formats. These files are shown in figure 1 and are listed here:

File Name	Description of Data	Required/Optional
1. CALLSIGN.DAT	General earth station data (Form 493)	Required
2. CALLSIGN.HOR	Horizon profile data for earth station	Required
3. CALLSIGN.TRP	Co-polar transmit antenna pattern	Optional
4. CALLSIGN.RRP	Co-polar receive antenna pattern	Optional
5. CALLSIGN.P25	FCC Part 25 Coordination Contours	??????
6. AIIIA.xxx	IFRB Associated Space Station Data	Required
7. APP28T.xxx	ITU Appendix 28 Coordination Contours for transmitting band	Required
8. APP28R.xxx	ITU Appendix 28 Coordination Contours for receiving band	Required
9. AIIIByyy.xxx	IFRB Transmitting earth station data	Required
10. AIIICyyy.xxx	IFRB Receiving earth station data	Required

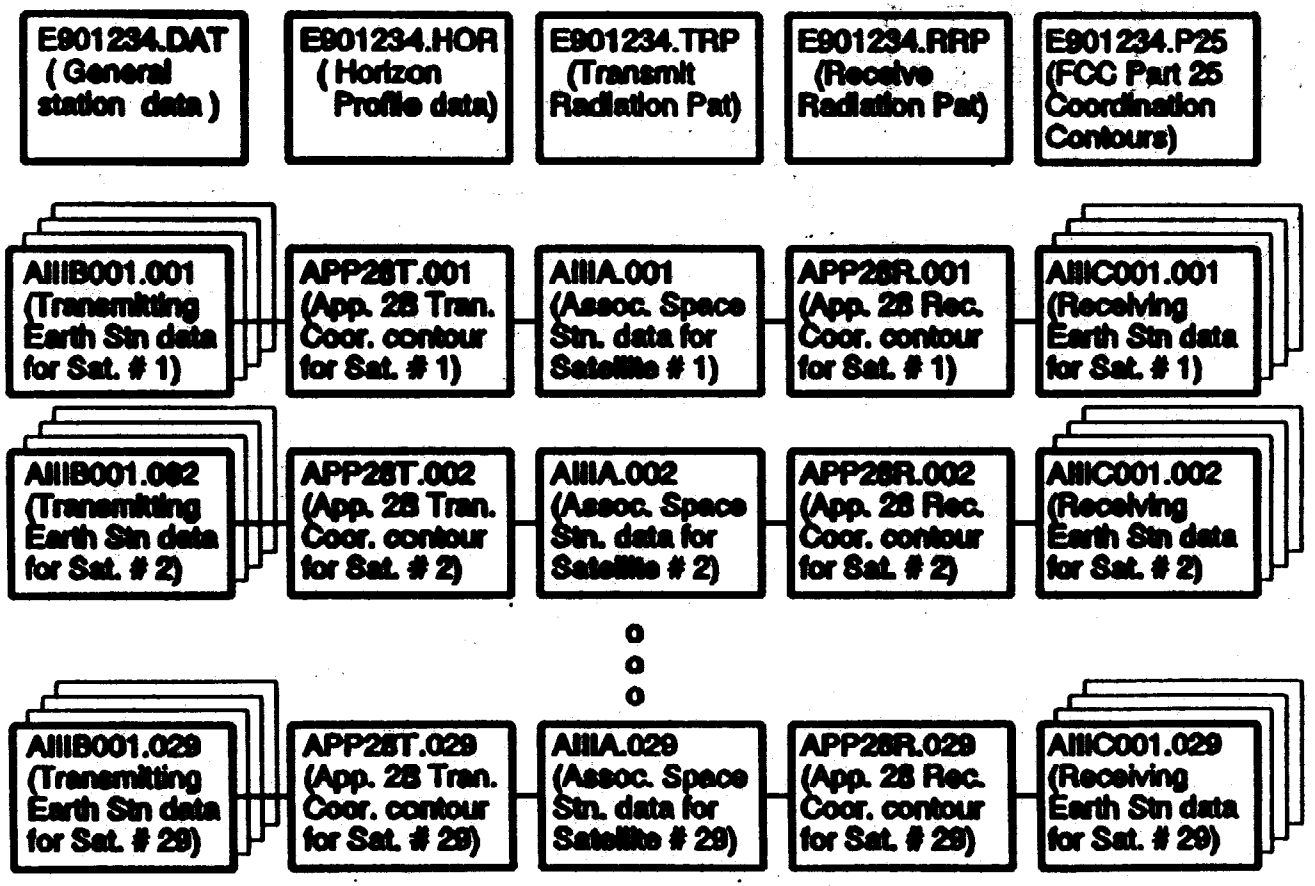
Naming of Data Files:

In the table above, where the word **'CALLSIGN'** is used, substitute the actual earth station call sign (i.e. KW25, WD20, E4035, or E891234) for stations with existing authorizations. For pending applications use the call sign or file number (1234-DSE-P/L-91 would become '91001234', etc.), if known. For new applications without call signs or file numbers, use 'NEWESTN'. Thus, file number 1 becomes: **'E891234.DAT'**, or **'91001234.DAT'**, or **'NEWESTN.DAT'**.

For the IFRB and ITU data files (files 6, 7, 8, 9, and 10) the **'*.xxx'** suffix refers to the number of the associated space station. Use **'*.001'** for the first satellite, **'*.002'** for the second satellite, etc. All files with the same suffix number provide data for the same associated space station.

For the IFRB transmitting and receiving earth station data files (files 9 and 10) the 'yyy' in the first part of the filename refers to the number of the space station antenna beam. Use '001' for the first transmitting and receiving antenna beam of each satellite, '002' for the second transmitting and receiving antenna beam of each satellite, etc. Hence, AIIIB002.003 refers to the second receiving antenna beam on the third satellite network, while AIIIB003.002 refers to the third receiving antenna beam on the second satellite network.

FIGURE 1: FILE STRUCTURE FOR EARTH STATION IFRB DATA SUBMISSIONS



Data Elements Required for the International Coordination of Domestic, International, and Transborder Earth Stations

FILE NUMBER 1 -- General Earth Station Data, "CALLSIGN.DAT":

Definition	Mnemonics	Format	Example
Earth station call sign	CSIGN	c7	E910123
File number of current authorization	CAFNO	c17	1234-DSE-P/L-91
Applicant or Licensee flag	ALFLG	c1 (A, L)	L
Applicant or Licensee name	ANAME	c80	XYY Company, Inc.
Applicant mailing address-street	APM01	c40	123 N. Main St.
Applicant mailing address-city	APM02	c20	Anytown
Applicant mailing address-state	APM03	c2	TX
Applicant mailing address-zip code	APM04	c10	12345-1234
Applicant telephone area code	APT01	c3	123
Applicant telephone number	APM05	c8	123-4567
Contact representative name	RNAME	c80	A & B Law Firm
Representative mailing address-street	RPM01	c40	222 S. Main St.
Representative mailing address-city	RPM02	c20	Anytown
Representative mailing address-state	RPM03	c2	TX
Representative mailing address-zip code	RPM04	c10	12345-1234
Representative telephone area code	RPT01	c3	123
Representative telephone number	RPM05	c8	321-7654
Domestic Class of station:			
Fixed Earth Station	CSFES	c1 (Y,"")	Y
Temporary Fixed Earth Station	CSTFE	c1 (Y,"")	
12/14 GHz VSAT Network	CSVST	c1 (Y,"")	
Mobile Earth Station	CSMES	c1 (Y,"")	
Other	CSOTH	c1 (Y,"")	
Specify Other Class of station	CSOTS	c40	
Domestic Nature of service:			
Domestic Fixed-Satellite	NSDFS	c1 (Y,"")	Y
International Fixed-Satellite	NSIFS	c1 (Y,"")	
Radiodetermination-Satellite	NSRDS	c1 (Y,"")	
Mobile-Satellite	NSMSS	c1 (Y,"")	
Other	NSOTH	c1 (Y,"")	
Specify Other Nature of Service	NSOTS	c40	
Domestic Type of Request:			
License for transmit/receive earth station	LICTR	c1 (Y,"")	Y
License for transmit-only earth station	LICTO	c1 (Y,"")	
Registration or License for receive-only earth station	REGRO	c1 (Y,"")	
Modification of License/Registration	LRMOD	c1 (Y,"")	
Is developmental operation requested?	DEVOP	c1 (Y, N)	N
Number of stations covered	NSTNS	######	1

FILE NUMBER 1 -- General Earth Station Data, "CALLSIGN.DAT" continued:

Definition	Mnemonics	Format	Example
Purpose of modification is:			
Change in emissions	PMD01	c1 (Y, N)	N
Change in antenna	PMD02	c1 (Y, N)	N
Change in location	PMD03	c1 (Y, N)	N
Change in assigned frequencies	PMD04	c1 (Y, N)	N
Change in points of communications	PMD05	c1 (Y, N)	N
Change in range of satellite arc	PMD06	c1 (Y, N)	N
Other Change	PMD07	c1 (Y, N)	Y
Specified other change	PMD08	c40	Change IFRB Data
Station location - street address	SIT01	c40	4567 S. Elm St.
Station location - city	SIT02	c20	Tulsa
Station location - county	SIT03	c15	Lafayette
Station location - state	SIT04	c2	OK
Station location - zip code	SIT05	c10	23456-1111
Station location - telephone area code	SIT06	c3	321
Station location - telephone number	SIT07	c8	987-1234
Temporary fixed or VSAT area of operation	TFARA	c20	CONUS,HA,AK
Temporary fixed or VSAT contact point:			
Name of contact point	TFNAM	c80	John Doe
Contact point telephone area code	TFACD	c3	301
Contact point telephone number	TFTEL	c8	999-9999
Station latitude (degrees part)	LATDG	## (0-90)	36
Station latitude (minutes part)	LATMN	## (0-59)	06
Station latitude (seconds part)	LATSC	## (0-59)	05
Station latitude (hemisphere part)	LATNS	c1 (N,S)	N
Station longitude (degrees part)	LONDG	###(0-180)	095
Station longitude (minutes part)	LONMN	## (0-59)	55
Station longitude (seconds part)	LONSC	## (0-59)	26
Station longitude (hemisphere part)	LONEW	c1 (E,W)	W
Site ground elevation (meters AMSL)	GNDEL	######.#	223.4
Points of communication:			
Call sign of 1st satellite (or 'ALSAT')	POC01	c7	KS31
Call sign of 2nd satellite	POC02	c7	KS32
Call sign of 3rd satellite	POC03	c7	KS57
Call sign of 4th satellite	POC04	c7	S2001
Call sign of 5th satellite	POC05	c7	S2002
Domestic frequency coordination data (repeats 1-99 times):			
Lower frequency limit (MHz)	CFL01	#####.###	5925.000
Upper frequency limit (MHz)	CFU01	#####.###	6425.000
Range of satellite longitude arc - east	SAE01	####.#W	55.0W
Range of satellite longitude arc - west	SAW01	####.#W	145.0W
Antenna elevation angle - east limit	ELE01	##.#	10.0
Antenna elevation angle - west limit	ELW01	##.#	15.0
Earth station azimuth - east limit	AZE01	###.#	145.3
Earth station azimuth - west limit	AZW01	###.#	194.7
Maximum EIRP density toward horizon	HDN01	####.#	-39.5

FILE NUMBER 1 -- General Earth Station Data, "CALLSIGN.DAT" continued:

Definition	Mnemonics	Format	Example
Domestic Transmitter equipment (repeats 1-99 times):			
Number of high power amplifiers (HPAs)	TQU01	###	2
Transmitter equipment manufacturer	TMK01	c40	XYZ Co.
Transmitter equipment model number	TMD01	c20	VZJ-2700
Maximum transmitter power output (watts)	TPR01	#####.#	1000.0
Domestic antenna facilities data (repeats 1-99 times)			
Quantity of this model antenna	ANQ01	###	1
Antenna Used for satellite telemetry, tracking, and Control (TT&C) or Communications (C)	TTC01	c1 (T, C)	C
Antenna manufacturer	AMK01	c20	Antennas, Inc.
Antenna model number	AMD01	c20	83298-123
Antenna aperture (circular/rectangular)	AAF01	c1 (C, R)	C
Antenna diameter (circular only - meters)	ADI01	###.##	10.0
Antenna major axis (rectangular - meters)	AMJ01	###.##	7.5
Antenna minor axis (rectangular - meters)	AMN01	###.##	3.5
Type of antenna feed	AFD01	c4	PRIM
Antenna gain # 1 (dBi)	AG101	##.#	53.1
Reference frequency band for gain # 1	AB101	c2	06
Antenna gain # 2 (dBi)	AG201	##.#	51.2
Reference frequency band for gain # 2	AB201	c2	04
Antenna gain # 3 (dBi)	AG301	##.#	57.5
Reference frequency band for gain # 3	AB301	c2	14
Antenna gain # 4 (dBi)	AG401	##.#	55.3
Reference frequency band for gain # 4	AB401	c2	12
Maximum antenna height above mean sea level (meters AMSL)	AHS01	######.##	1154.2
Maximum antenna height above ground level (meters AGL)	AHG01	######.##	12.3
Maximum antenna height above building rooftop (meters above rooftop)	AHR01	######.##	4.2
Building height above ground level (meters AGL)	AHB01	######.##	43.7
Domestic particulars of operation (repeats 1-99 times):			
Lower frequency band limit (MHz)	FQL01	#####.#####	5925.0
Upper frequency band limit (MHz)	FQU01	#####.#####	6425.0
Antenna polarization flag (H,V,L,R,Z)	POL01	c1	Z
Emission Designator	EMS01	c9	36M0F9W
Maximum transmitted EIRP (dBW)	ERP01	###.##	78.0
Maximum EIRP Density (dBW/4kHz)	DEN01	#####.##	18.1
Description of modulation	DMD01	c40	?????????????
Domestic receiving system noise temperature data:			
Receiving system noise temperature (Kelvin)	RSNTK	#####	85
Frequency at which system noise temperature was measured (MHz)	RSNTF	#####.#	4000
Elevation angle at which system noise temperature was measured (degrees)	RSNTA	##.#	24.5

FILE NUMBER 1 — General Earth Station Data, "CALLSIGN.DAT" continued:

Definition	Mnemonics	Format	Example
Does the proposed antenna(s) comply with the antenna gain patterns specified in section 25.209(a) and (b) as demonstrated by the manufacturer's qualification measurements?	SC209	c1 (Y,N)	Y
Remote control operation:			
Will the facility be remotely controlled?	RMCYN	c1 (Y,N)	Y
Remote control point - street address	RCP01	c40	
Remote control point - city	RCP02	c20	
Remote control point - county	RCP03	c15	
Remote control point - state	RCP04	c2	
Remote control point - zip code	RCP05	c10	
Remote control point - telephone area code	RCP06	c3	
Remote control point - telephone number	RCP07	c8	
Remote control point - Remote stn call sign	RCP08	c7	
Will an antenna less than 9 meters in diameter be used at this site to transmit to a fixed-satellite below 7075 MHz?	SAI06	c1 (Y,N)	Y
Will an antenna less than 5 meters in diameter be used at this site to transmit to a fixed-satellite from 7075 MHz to 14.5 GHz?	SAI14	c1 (Y,N)	N
Transmissions in the band 5925-7075 MHz will be limited to a maximum bandwidth of (MHz):	SAB06	######.##	36000.0
Transmissions in the band 5925-7075 MHz will be limited to a maximum EIRP density of (dBW/4kHz):	SAD06	#####.##	20.0
Transmissions in the band 7075 MHz to 14.5 GHz will be limited to a maximum bandwidth of (MHz):	SAB14	######.##	36000.0
Transmissions in the band 7075 MHz to 14.5 GHz will be limited to a maximum EIRP density of (dBW/4kHz):	SAD14	#####.##	20.0
Will the operation of this facility be governed by a previous small antenna authorization?	PSAYN	c1 (Y,N)	N
Previous small antenna authorization cite:	PSACT	c12	
Is the facility to be used to provide Radiodetermination-Satellite Service (RDSS) in the frequencies allocated for RDSS?	RDSS1	c1 (Y,N)	N
Is the facility to be used to provide Mobile-Satellite Service (MSS) in the frequencies allocated for MSS?	MSSYN	c1 (Y,N)	N
Is domestic frequency coordination required?	DFCRQ	c1 (Y,N)	Y
Is coordination with another country required?	IFCRQ	c1 (Y,N)	Y
Is FAA notification required for any of the new or modified structures proposed in this application?	FAANR	c1 (Y,N)	N

FILE NUMBER 1 -- General Earth Station Data, "CALLSIGN.DAT" continued:

Definition	Mnemonics	Format	Example
Would a commission grant of this application be an action which may have a significant environmental effect as defined by Section 1.1307 of the Commission's Rules?	EVIMP	c1 (Y,N)	Y
Is this application inconsistent with any of Commission's Rules? Are waivers required?	WAIVR	c1 (Y,N)	N
Is the applicant a foreign government or a representative thereof?	FORGV	c1 (Y,N)	N
Does the applicant meet the requirements of Section 310(b)(1), (2) and (3) of the Communications Act (47 USC 310(b)(1),(2) and (3))?	R310A	c1 (Y,N)	?
Does the applicant meet the requirements of Section 310(b)(4) of the Communications Act (47 USC 310(b)(4))?	R310B	c1 (Y,N)	?
Will the station be used to provide common carrier service?	COMCR	c1 (Y,N)	N
Will the station be used for developmental purposes?	DEV01	c1 (Y,N)	N
If transmitting antenna, will individual applicant, partner, or full-time manager actively participate in the day-to-day management and operation of proposed facility?	ACTMG	c1 (Y,N)	Y
For transmitting antennas that provide domestic or international service, give the date that a complete and accurate FCC 430 form was already filed with the FCC.	F430D	mn/dy/year	01/15/1993
Is FCC 430 form attached?	F430A	c1 (Y,N)	N
Identify Exhibit no. 1 attached to application	EXH01	c60	
Identify Exhibit no. 2 attached to application	EXH02	c60	
Identify Exhibit no. 3 attached to application	EXH03	c60	
Identify Exhibit no. 4 attached to application	EXH04	c60	
Identify Exhibit no. 5 attached to application	EXH05	c60	
Engineering Certification:			
Date engineer signed application	ENGDT	mn/dy/year	01/15/1993
Name of engineer signing application	ENGSG	c40	John Doe
Applicant's Certification:			
Date applicant signed application	APCDT	mn/dy/year	01/15/1993
Name of person signing application	APCSG	c40	John Doe

FILE NUMBER 2 -- Horizon Elevation Profile Data, "CALLSIGN.HOR":

Definition	Mnemonics	Format	Example
Station call sign	CSIGN	c7	E901234
Number of data points provided herein	NPTHP	####	72

"NPTHP" rows with the following information on each row:
Point number (1-NPTHP), North bearing angle (degrees),
and associated Horizon elevation angle (degrees):
Format: "#### ###.# ###.#" (spaces between values)

Example:
```
CSIGN E901234
NPTHP 72
0001   0.0   1.2
0002   5.0   1.9
        o
        o
        o
0071 350.0   0.2
0072 355.0   0.3
```

FILE NUMBER 3 -- Transmit Earth Station Antenna Radiation Pattern, "CALLSIGN.TRP":

Definition	Mnemonics	Format	Example
Station call sign	CSIGN	c7	E901234
Number of data points provided herein	NPTRP	#####	3600

"NPTRP" rows with the following information on each row:
Point number (1-NPTRP), Off-axis angle (-180 to 180 degrees),
and associated co-polar transmit antenna gain value (dBi):
Format: "##### ####.# ###.#" (spaces between values)

Example:
```
CSIGN E901234
NPTRP 3600
00001 -180.0 -10.0
00002 -179.9 -12.1
  o     o     o
01800    0.0  53.1
  o     o     o
03599  179.8 -14.4
03600  179.9 -12.2
```

FILE NUMBER 4 -- Receive Earth Station Antenna Radiation Pattern, "CALLSIGN.TRP":

Definition	Mnemonics	Format	Example
Station call sign	CSIGN	c7	E901234
Number of data points provided herein	NPRRP	#####	360

"NPRRP" rows with the following information on each row:
Point number (1-NPRRP), Off-axis angle (-180 to 180 degrees), and associated co-polar receive antenna gain value (dBi):
Format: "##### ####.# ###.#" (spaces between values)

Example:
```
CSIGN E901234
NPRRP 360
00001 -180.0 -10.0
00002 -179.0 -10.0
  o     o      o
00180    0.0  51.2
  o     o      o
00359  178.0 -10.0
00360  179.0 -10.0
```

FILE NUMBER 5 -- FCC Part 25 Coordination Contours, "CALLSIGN.P25":

Definition	Mnemonics	Format	Example
Station call sign	CSIGN	c7	E901234
Frequency band for the following coordination contour data set (GHz) (repeats for each frequency band used at the earth station)	FRQ01	###.#	4.0
Number of data points for the following data set (repeats)	NPT01	####	72

"NPT01" rows with the following information on each row:
Point number (1-NPT01), North bearing angle (degrees), Great Circle Coordination distance at this bearing (km), and Rain Scatter Coordination distance at this Bearing (km)
Format: "#### ###.# ####.# ####.#" (spaces between values)

Example:
```
CSIGN E901234
FRQ01 4.0
NPT01 72
0001   0.0  212.3  100.0
0002   5.0  220.1  101.0
          o
          o
0071 350.0  220.0  102.0
0072 355.0  217.4  101.0
FRQ02 6.0
NPT02 72
0001   0.0  182.3  100.0
0002   5.0  188.1  100.0
          o
          o
0071 350.0  189.0  100.0
0072 355.0  185.4  100.0
```

FILE NUMBER 6 -- IFRB Associated Space Station Data, "AIIIA.xxx":
where "xxx" = "001" for the first satellite,
= "002" for the second satellite, etc.

Definition	Mnemonics	Format	Example
Date of submission	DAS01	mn/dy/year	03/14/1999
Administration serial number	ASN01	#########	?????????
Notifying Administration	NAMIN	ccc/ccc	USA
RR1488 Notification	R1488	c1 (Y,"")	
RR1107 Request for coordination	R1107	c1 (Y,"")	Y
RR1610 Agreement under Art. 14	R1610	c1 (Y,"")	
Request for assistance of the IFRB for RR1107 coordination	B1107	c1 (Y,"")	
Request for assistance of the IFRB for RR1610 coordination	B1610	c1 (Y,"")	
Notification intended for ADD/MOD/SUP	NOTIN	c3	ADD
First Notification	FINOT	c1 (Y,"")	Y
Resubmission	RESUB	c1 (Y,"")	
IFRB identification no. of station to be modified/deleted (resubmission only)	IFRID	c9	?????????
A. CHARACTERISTICS OF THE EARTH STATION			
Type of station (Specific or Typical)	TYPES	c1 (S, T)	S
Name of the earth station	ENAME	c20	Tulsa # 1
Country or Area	EAREA	c3	USA
Name of the associated space station	SATNM	c20	USASAT 77D
Nominal orbital longitude (if geostationary)	NOLON	###.##E	101.00W
Is horizon elevation profile data included?	HORPF	c1 (Y, N)	Y
Elevation angle of main beam (degrees)	ELANG	##.#	37.3
Operating azimuthal angle (FROM - degrees)	OAZ01	###.#	178.3
Operating azimuthal angle (TO - degrees)	OAZ02	###.#	179.1
Height of the center of the antenna above mean sea level (meters)	ALTCL	######.#	230.1

FILE NUMBER 7 -- ITU Appendix 28 Coordination Contours for transmitting earth station, "APP28T.xxx":

Definition	Mnemonics	Format	Example
Station call sign	CSIGN	c7	E901234
Associated space station name	TST28	c20	USASAT 77D
Frequency band for the following coordination contour data set (GHz)	FQT28	###.#	6.0
Number of data points for the following data set	NPT28	####	72

"NPT28" rows with the following information on each row:
Point number (1-NPT28), North bearing angle (degrees), Appendix 28 Mode 1 Coordination distance at this bearing (km), and Mode 2 Coordination distance at this Bearing (km)
Format: "#### ###.# ####.# ####.#" (spaces between values)

Example:
```
CSIGN E901234
TST28 USASAT 77D
FRT28 6.0
NPT28 72
0001   0.0  312.3  120.0
0002   5.0  320.1  121.0
          o
          o
0071 350.0  320.0  122.0
0072 355.0  317.4  121.0
```

FILE NUMBER 8 -- ITU Appendix 28 Coordination Contours for receiving earth station, "APP28R.xxx":

Definition	Mnemonics	Format	Example
Station call sign	CSIGN	c7	E901234
Associated space station name	TSR28	c20	USASAT 77D
Frequency band for the following coordination contour data set (GHz)	FQR28	###.#	4.0
Number of data points for the following data set	NPR28	####	72

"NPR28" rows with the following information on each row:
Point number (1-NPR28), North bearing angle (degrees), Appendix 28 Mode 1 Coordination distance at this bearing (km), and Mode 2 Coordination distance at this Bearing (km)
Format: "#### ###.# ####.# ####.#" (spaces between values)

Example:
```
CSIGN E901234
TST28 USASAT 77D
FRT28 4.0
NPT28 72
0001   0.0  352.3  350.0
0002   5.0  360.1  351.0
          o
          o
0071 350.0  360.0  352.0
0072 355.0  357.4  351.0
```